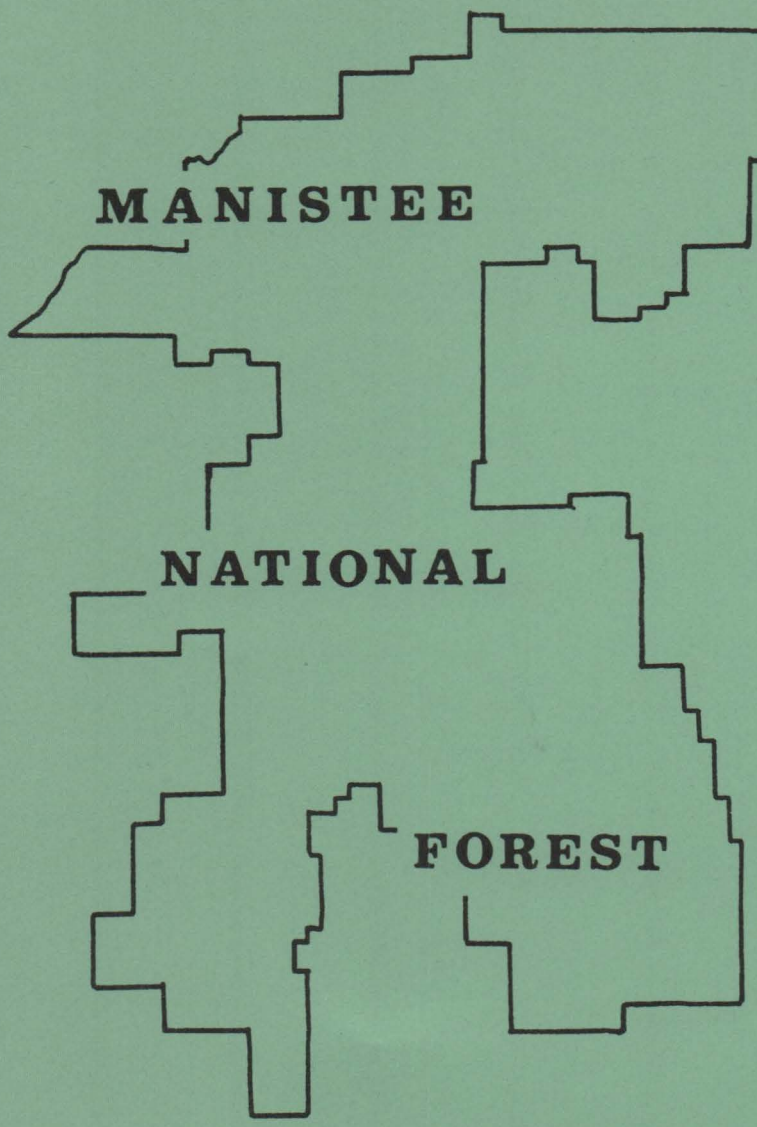
RECONNAISSANCE SURVEY



MANISTEE NATIONAL FOREST

OAK DEFOLIATION

1973

USDA, FOREST SERVICE
NORTHEASTERN AREA
STATE and PRIVATE FORESTRY
FOREST PEST MANAGEMENT

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Reconnaissance Survey
Oak Defoliation on the Manistee N. F. and Adjacent Forest Lands in Lower Michigan - 1973

By

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ABSTRACT

Severe oak defoliation has decreased considerably from 392,000 acres in 1972 to 60,000 acres in 1973 and moderate to heavy scattered defoliation in 1972 on 196,000 acres to 80,000 acres in 1973. The Heterocampa sp. caterpillars were the major insect species responsible for the defoliation with the Red-humped oakworm confined to small localized areas.

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INTRODUCTION

During the last outbreak (1956-58) of late summer defoliation, 45,000 acres of oak were affected. The current outbreak began in 1970, when 160,000 acres of oak type were severely defoliated. In 1971 and 1972, 300,000 and 392,000 acres of oak were severely defoliated, respectively. The outbreak is continuing and this report presents the situation for 1973.

CAUSAL AGENTS

Most of the 1973 defoliation is caused by Heterocampa sp. caterpillars commonly known as Variable Oak Leaf Caterpillars. Studies are being done to identify the species, which appears to be similar to H. manteo (Dbldy.).

A few smaller areas of defoliation were caused by the Redhumped oakworm, Symmerista canicosta Franc. This is a noticeable change from previous years, when the latter species made up more than 90% of the defoliator complex.

SURVEY METHODS

The aerial survey was flown on October 10, 1973 to delineate the infestation boundaries using the standard sketch mapping methods.

RESULTS AND DISCUSSION

The southern portion of the forest originally infested in 1970 and 1971 had shown signs of population collapse during 1973 field studies. Because of this and poor visibility conditions at the time of the 1973 aerial survey this portion of the original infestation was not flown intensively. Small areas of defoliation may not have been observed for mapping. These areas would not add materially to the total area of the infestation reported herein.

The defoliation map (Figure 1) shows about 60,000 acres with heavy to severe defoliation and 80,000 acres with moderate to heavy scattered defoliation. The infestation area has decreased particularly on the southern half of the forest.

MANISTEE NATIONAL FOREST

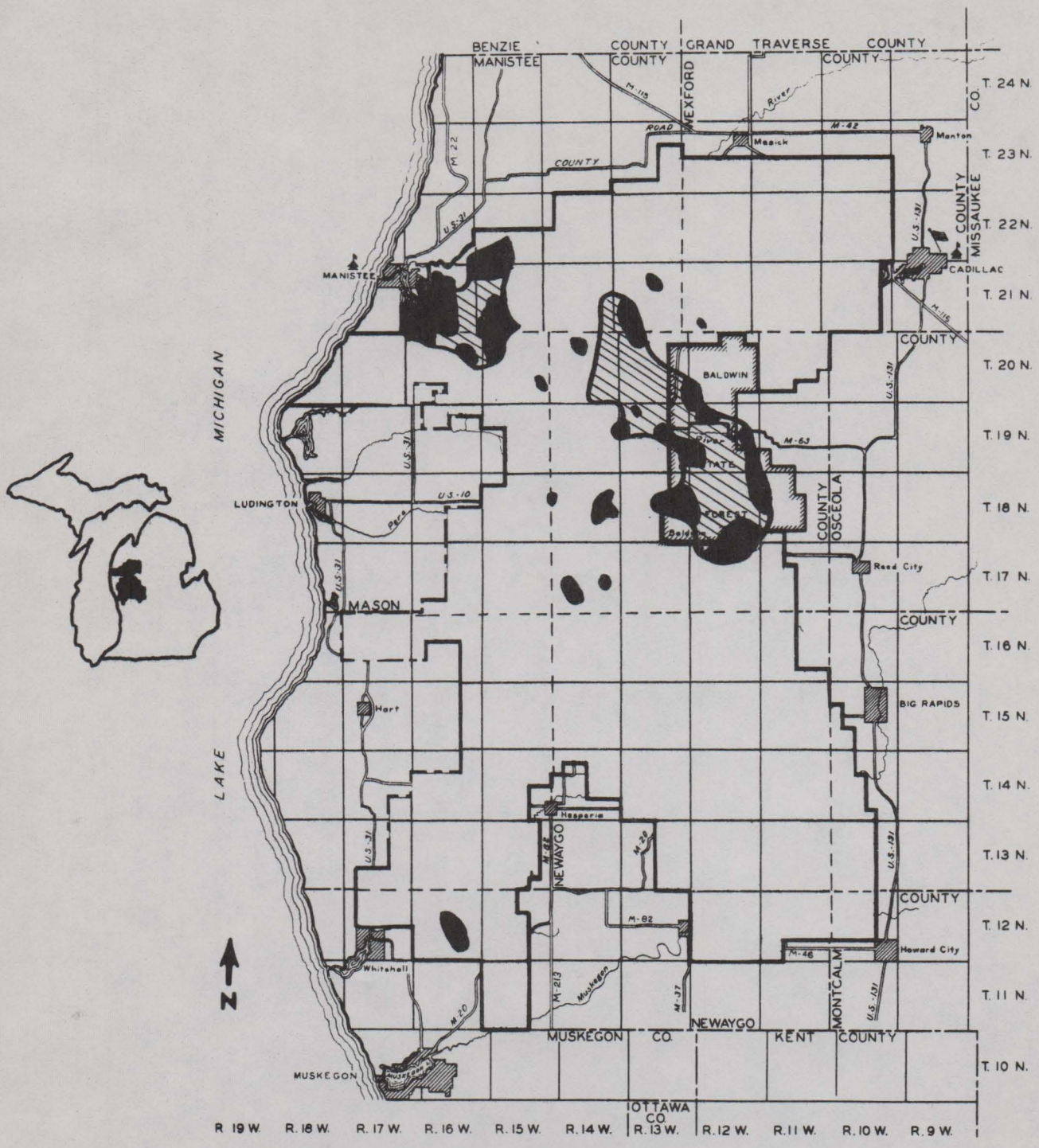

Figure 1. Oak Defoliation - 1973.

Heavy to Severe

Moderate to heavy (scattered)